



Enhancing Environment Education in Eastern Europe

Enrica Caporali, Elena Palmisano, and Juna Valdiserri

School of Engineering, University of Florence, Firenze, Italy (enrica.caporali@unifi.it, elena.palmisano@unifi.it, vices@unifi.it)

The sustainability of human development has, as relevant key factors, environment protection, natural resources management and climate change. In 1992 at the Earth Summit, the UN introduced guidance principles for governments for environmental protection and measures against the climate change. The international environment treaty, known as the «Kyoto Protocol», was intended to achieve «stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system». The environmental policy is object of discussions, in different prime minister summits and conferences, and constitutes a priority of policy in an increasing number of countries.

Since higher education plays a central role in the development of both human beings and modern societies enhancing social, cultural and economic development, active citizenship, ethical values and expertises for a sustainable growth, the European Commission promotes a wide range of programmes. In particular the European Higher Education institutions, to achieve the objectives above, and to encourage cooperation between countries, may cooperate through TEMPUS projects (Trans-European Mobility Programme for University Studies) which support the modernisation of higher education and create an area of co-operation in countries surrounding the EU. Some important projects run by the University of Florence are the TEMPUS DEREK - Development of Environmental and Resources Engineering Curriculum (2005-2008) and its spin-off called DEREL - Development of Environment and Resources Engineering Learning (2010-2013), recently recommended for funding by the European Commission. Through the co-operation of all project consortium members (Universities in Italy, Austria, Germany, Greece, FYR Macedonia, Albania and Serbia) the activities are aimed at the development of first and second level curricula in «Environmental and Resources Engineering» at the Ss. Cyril and Methodius University in Skopje (FYR Macedonia). In the DEREK Project the conditions for offering a joint degree title in the field of Environmental Engineering between the University of Florence and the Ss. Cyril and Methodius University in Skopje were fulfilled and a shared educational programme leading to the mutual recognition of degree titles was defined. The DEREL Project, as logical continuation of DEREK, is aimed to introduce a new, up-to-date, postgraduate two-year curriculum in Environment and Resources Engineering at some Universities in FYR Macedonia, Serbia and Albania following the criteria and conditions for setting up a Joint Postgraduate Degree.

The modernisation of higher education implies new educational requirements that, stimulated by the innovative telecommunication technologies together with novel educational materials and methodologies, lead to the development of distance learning environments. In order to provide the basis for the development of a distance learning environment based on video conferencing systems and develop a blended learning courses methodology, the TEMPUS Project VICES - Videoconferencing Educational Services (2009-2012) was launched in 2009 with a partnership including Universities in Italy, Belgium, Hungary, FYR Macedonia, Albania and Serbia). The project is lead by the University of Florence with the expertise of consortium members and it foresees the implementation of videoconferencing educational modules in the frame of the DEREK Curriculum.

In all above projects, the technical and methodological aspects related to climate change, environment protection and natural resources enhancement are highlighted, the implementation of a multidisciplinary and interdisciplinary approach to achieve the main goals of the Bologna Declaration of educational systems based on the European Credit Transfer System – ECTS is emphasized. The development of integrated study programmes, based on international co-operation at academic level, reinforced by the mobility of students and teachers, is also analysed.